Original Article

Medical students' perception of professionalism climate in clinical settings

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Abstract

Medical professionalism has a crucial role in educating medical students. The role of professionalism in the clinical environment is therefore an important factor in medical education. This study attempts to evaluate the opinions of medical students in the teaching hospitals of Tehran University of Medical Sciences (TUMS) about the professionalism environment in this university.

A sample of 165 students filled out the Persian translation of UMKC-SOM (Climate of Professionalism Survey) questionnaire. This instrument evaluates students' perspectives on the degree of adherence to professionalism by faculty, residents and other students.

The results of the study revealed that the total score of professionalism climate was 53.9 for faculty, 42.09 for residents, and 50.76 for students and the difference between these three groups was statistically significant (p-value < 0.01). Results of further analysis through post-hoc tests for multiple comparisons among the groups revealed that the students found their fellow students and faculty more professional than residents. The study also showed that the medical ethics course had no impact on perceptions observations (*p*-values > 0.05).

The study results also revealed that the students found their fellow students and faculty more professional than residents. This finding demonstrates the importance of teaching professionalism to residents since they serve as role models for students.

Further multicenter studies are needed to improve the professionalism climate in the medical teaching environment.

Keywords: *Iran; Medical student; Professionalism climate.*

Introduction

Medical professionalism is considered as the professional commitments specified by the "social contract" between the society and health-care providers (1). The most important base for this contract is the public trust in medical service providers including physicians. This trust is established on the truthfulness and integrity of physicians and the profession they belong to (2). However, studies have reported challenges and some deterioration in professional behavior (3 - 8). As a reaction to these defects, medical schools designed courses, conferences, various programs and guidelines to teach professionalism and promote it among medical students (9 - 16). However, professional behaviors will be meaningful after the trainees are provided with a clear definition of professionalism as an essential competency (1, 17). On the other hand, unprofessional behaviors in medical schools could lead to unprofessional behaviors in future medical practices (11).

The most prominent features of professionalism are considered to be accountability, trustworthiness, honesty, competence, respect and integrity in many medical institutions along with social contract with society (18 - 20). Evaluation is an essential component of teaching medical professionalism (20). Different methods have been developed to assess professionalism, for instance observing behavior, knowledge and attitude, feedback, portfolio, appraisal of critical incidents, peer review, and so on (21). Some scales have been used to assess professionalism, including the "*Nijmegen Professional Scale"* and the "*Professional Mini Evaluation"* (22, 23).

According to the recommendations from the Ottawa 2010 Conference, there are numerous elements associated with professionalism and it should therefore be assessed at various levels such as "individual, interpersonal, and societal/institutional" (24). However, organizational climate is an important issue in the development of professionalism (24, 25). What medical students learn in clinical settings is, however, broader and deeper than what is taught in classes or written in books. In fact, observing clinical behaviors shapes medical students' thoughts and acts. Professionalism is a behavior that might be better learnt through 'learning by doing' under decisive observation (25-27). Assessing medical students' behaviors is crucial in medical environments and it is an important issue in social contract with the society (28, 29).

Quaintance et al. reported a significant difference in the perceived professional behavior of the clinical student compared to the preclinical student (30). Based on this study, clinical exposure continues to shape ethical judgment and the role of hidden curriculum should not be underestimated in behaving professionally. In other words, not only are teaching, education and evaluation important issues in professional identity formation, but also the organizational climate has a critical role in this regard (24).

Consequently, evaluating the "*climate of professionalism*" is important to examining

the status of professionalism in educational environments. The Climate of Professionalism Instrument (*UMKC-SOM[1] questionnaire*) was first introduced by Quaintance et al (30), and was designed to assess medical learners' perspectives on professionalism. In this study, we chose UMKC-SOM because it assessed responders' views on the degree of adherence to professionalism by members of all three groups of faculty, residents, and students. Previous studies on climate of professionalism in Iran are scarce and almost all of them have used ABIM scale as the instrument for the evaluation of climate of professionalism (31, 32). Moreover, they showed that the perceived professional climate among residents was not good (32). To cover the professionalism challenges of clinical settings in Tehran University of Medical Sciences, it is essential to figure out the most problematic areas of professional behaviors. UMKC-SOM is a novel instrument in Iran and its findings can reveal new insights into ethical behaviors. In this study, we aimed to evaluate medical students' observations of professionalism in other students, residents, and faculty in the educational hospitals of Tehran University of Medical Sciences.

Methods

This was a cross sectional study done from May to August 2017, approved by the TUMS research ethics committee (IR.TUMS.VCR.REC.1396.2052).

A questionnaire was sent online through the Google form platform for 250 medical students studying in the teaching hospitals of TUMS (3rd and 4th year of school), and 165 questionnaires were filled out and returned (82.5% response rate). The students' E-mail address was given to us by their representative at the university after obtaining their permission. There was no obligation to take part in this research. We used the UMKC-SOM climate of professionalism questionnaire introduced by Quintanses (30) after asking the questionnaire developer's permission. The questionnaire was translated into Persian, and then back-translated into English by an English expert who had not seen the original version of the questionnaire, and finally, it was translated into Persian again. In order to evaluate the validity of the questionnaire, several experts on professionalism assessed the questionnaire and confirmed its content validity. Next, some modifications were performed to make the questionnaire compatible with local needs, and the final version was then prepared. All participants filled the approved Persian translation of the UMKC-SOM questionnaire, which consisted of 12 items regarding professional and unprofessional behaviors observed in other students, residents and faculty members. The frequency of these behaviors was categorized as rarely, sometimes, often and mostly. For scoring professional behaviors, +1, +2, +3 and +4 scores were considered for rarely, sometimes, often and mostly, respectively. Unprofessional behaviors were scored reversely, and the total score was

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then calculated. In order to have a better understanding of the scores, we converted the scores (12 - 48) to (0 - 100) scaling. Demographic variables were also recorded, and data analysis was performed using the SPSS version 18 software. Descriptive analysis was reported as frequency, percentage, mean, and standard deviation. ANOVA was used for comparison of groups, and post-hoc tests were used for multiple comparisons. Kruskal-Wallis and Mann-Whitney tests were used for the comparison of question grades among the three groups and pairwise comparisons, respectively. *P*-values under 0.05 were considered as statistically significant.

Result

Overall, out of 250 students, 165 (82.5%) participated in the study and filled the 12-item questionnaire regarding their perception of the professional behavior of students, residents and faculty members in the clinical environment (66% response rate). Of this number, 106 responders (64.24%) were male and 59 (35.75%) were female. The details of answers to each item of the questionnaire are shown in Table 1.

Table 1- Students' perception of professionalism adherence in faculty, residents and students

Item	Rarely	Sometimes	Often	Mostly	*P*-Value*
1. Show disrespect for patients, students, faculty, staff or other healthcare personnel					
Medical students	86 (52.1%)	71 (43.0%)	8 (4.8%)	0 (0.0%)	
Residents	19 (11.5%)	100 (60.6%)	43 (26.1%)	3 (1.8%)	0.000
Faculty	65 (39.4%)	87 (52.7%)	11 (6.7%)	2 (1.2%)	
2. Advocate for the well-being of patients, students, colleagues, the community and/or the medical profession					
Medical students	23 (13.9%)	53 (32.1%)	73 (44.2%)	16 (9.7%)	
Residents	20 (12.1%)	63 (38.2%)	71 (43.0%)	11 (6.7%)	0.007
Faculty	24 (14.5%)	31 (18.8%)	81 (49.1%)	29 (17.6%)	
3. Make oneself look good at the expense of others					
Medical students	54 (32.7%)	80 (48.5%)	26 (15.8%)	5 (3.0%)	
Residents	33 (20.0%)	76 (46.1%)	46 (27.9%)	10 (6.1%)	0.000
Faculty	69 (41.8%)	75 (45.5%)	17 (10.3%)	4 (2.4%)	
4. Exceed expectations in patient care, class, conferences and/or rounds					
Medical students	87 (52.7%)	59 (35.8%)	18 (10.9%)	1 (0.6%)	
Residents	96 (58.2%)	58 (35.2%)	10 (6.1%)	1 (0.6%)	0.046
Faculty	79 (47.9%)	57 (34.5%)	27 (16.4%)	2 (1.2%)	
5. Perform one's duties and help others do theirs					
Medical students	51 (30.9%)	69 (41.8%)	40 (24.2%)	5 (3.0%)	
Residents	65 (39.4%)	59 (35.8%)	35 (21.2%)	6 (3.6%)	0.000
Faculty	97 (58.8%)	50 (30.3%)	15 (9.1%)	3 (1.8%)	
6. Complain about professional obligations					
Medical students	19 (11.5%)	61 (37.0%)	65 (39.4%)	20 (12.1%)	
Residents	7 (4.2%)	29 (17.6%)	79 (47.9%)	49 (29.7%)	0.000
Faculty	57 (34.5%)	83 (50.3%)	21 (12.7%)	4 (2.4%)	
7. Lie to patients, professors, colleagues/peers or in the medical record					
Medical students	74 (44.8%)	69 (41.8%)	18 (10.9%)	4 (2.4%)	
Residents	58 (35.2%)	78 (47.3%)	25 (15.2%)	4 (2.4%)	< 0.001
Faculty	114 (69.1%)	41 (24.8%)	8 (4.8%)	2 (1.2%)	
8. Show respect and compassion toward patients, students, faculty, staff or other healthcare personnel					
Medical students	5 (3.0%)	56 (33.9%)	86 (52.1%)	18 (10.9%)	
Residents	22 (13.3%)	83 (50.3%)	57 (34.5%)	3 (1.8%)	< 0.001
Faculty	9 (5.5%)	67 (40.6%)	80 (48.5%)	9 (5.5%)	

Item	Rarely	Sometimes	Often	Mostly	*P*-Value*
9. Accurately and spontaneously report one's own mistakes or uncertainties					
Medical students	105 (63.6%)	45 (27.3%)	14 (8.5%)	1 (0.6%)	
Residents	125 (75.8%)	29 (17.6%)	9 (5.5%)	2 (1.2%)	0.060
Faculty	119 (72.1%)	33 (20.0%)	10 (6.1%)	3 (1.8%)	
10. Ignore the unprofessional behavior of others					
Medical students	35 (21.2%)	71 (43.0%)	45 (27.3%)	14 (8.5%)	
Residents	28 (17.0%)	70 (42.4%)	56 (33.9%)	11 (6.7%)	0.007
Faculty	35 (21.2%)	94 (57.0%)	32 (19.4%)	4 (2.4%)	
11. Do just enough to get by in patient care, class, conferences and/or rounds					
Medical students	12 (7.3%)	49 (29.7%)	82 (49.7%)	22 (13.3%)	
Residents	9 (5.5%)	42 (25.5%)	88 (53.3%)	26 (15.8%)	< 0.001
Faculty	32 (19.4%)	55 (33.3%)	58 (35.2%)	20 (12.1%)	
12. Enjoy serving others					
Medical students	16 (9.7%)	58 (35.2%)	69 (41.8%)	22 (13.3%	
Residents	37 (22.4%)	77 (46.7%)	42 (25.5%)	9 (5.5%)	< 0.001
Faculty	14 (8.5%)	52 (31.5%)	82 (49.7%)	17 (10.3%)	

**Significant p-value < 0.05*

Final scores were calculated as explained previously and it was revealed that the total scores for students, residents and faculty were 53.91 ± 13.37, 42.09 ± 12.64 and 50.76 ± 11.99, respectively (Figure 1). ANOVA analysis showed a significant difference among the groups (*p*-value = 0.000). Results of further analysis through post-hoc tests for multiple comparisons among the groups are shown in Table 2.

Table 2- Students' perceptions of the differences among faculty, residents and students

1st group	2nd group	Mean Difference	Standard Error	*P*-Value*
Faculty	*Residents*	11.81	1.398	< 0.001
	Students	3.14	1.396	0.063
Residents	*Faculty*	-11.81	1.398	< 0.001
	Students	-8.66	1.398	< 0.001
Students	*Faculty*	-3.14	1.396	0.063
	Residents	8.66	1.398	< 0.001

**Significant p-value < 0.05*

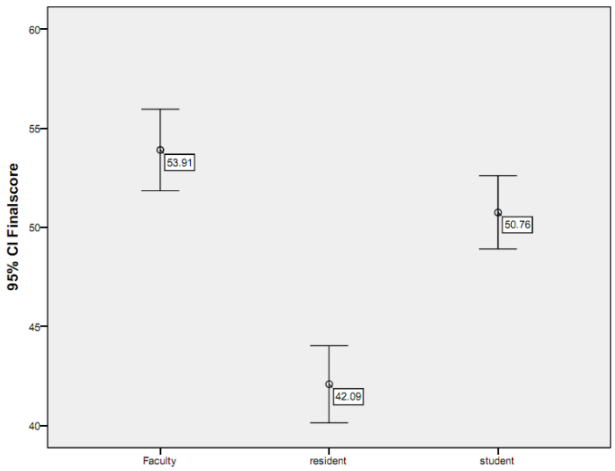

Figure 1- Total scores of study groups

Item by item analysis of the questionnaire was performed using the Kruskal-Wallis test. The difference among the groups was significant in all items ($P < 0.05$) except item 9 ($P = 0.060$). Results of the Mann-Whitney test across the groups are shown in Table 3.

Table 3- Students' perceptions of different groups' adherence to each item

Item	Group*	Mean Rank	*P*-Value**	Group	Mean Rank	*P*-Value	Group	Mean Rank	*P*-Value
Item 1	1	196.53	0.000	1	154.26	0.016	2	124.45	< 0.001
	2	134.47		3	176.74		3	206.55	
Item 2	1	180.34	0.003	1	176.79	0.022	2	162.17	0.497
	2	150.66		3	154.21		3	168.83	
Item 3	1	191.35	0.000	1	174.90	0.051	2	148.47	< 0.001
	2	139.65		3	156.10		3	182.53	
Item 4	1	177.18	0.013	1	171.43	0.214	2	159.65	0.209
	2	153.82		3	159.57		3	171.35	
Item 5	1	146.55	0.000	1	139.58	0.000	2	159.22	0.204
	2	184.45		3	191.42		3	171.78	
Item 6	1	221.98	0.000	1	201.74	0.000	2	137.84	< 0.001
	2	107.67		3	129.26		3	192.00	
Item 7	1	194.68	0.000	1	186.13	0.000	2	156.72	0.069
	2	136.32		3	144.87		3	174.28	
Item 8	1	183.03	0.000	1	155.47	0.035	2	138.70	< 0.001
	2	147.97		3	175.53		3	192.30	
Item 9	1	180.84	0.002	1	175.37	0.042	2	160.98	0.360
	2	150.16		3	155.63		3	170.02	
Item 10	1	185.31	0.000	1	180.15	0.003	2	159.72	0.229
	2	145.69		3	150.85		3	171.28	
Item 11	1	191.99	0.000	1	167.65	0.660	2	141.81	< 0.001
	2	139.01		3	163.35		3	189.19	

**Group 1: Faculty; Group 2: Residents; Group 3: Students*

***Significant p-value < 0.05*

We evaluated the effect of gender on total scores perceived by students in three groups, which is shown in Table 4.

Table 4- The effect of gender on total scores

Group	Gender	Mean	SD	*P*-Value*
Faculty	*Female*	56.44	12.98	0.001
	Male	49.34	12.92	
Residents	*Female*	42.16	12.64	0.915
	Male	41.94	12.73	
Students	*Female*	50.41	12.04	0.629
	Male	51.36	11.97	

**Significant p-value < 0.05*

Among the responders, 117 individuals (70.90%) had participated in ethics conferences, while 48 students (29.09%) reported no history of participation in these sessions. The details of the impact of ethics education on total scores are presented in Table 5.

Table 5- The effect of history of participation in ethics conferences and courses on total scores

Group	History of Participation in Ethics Conferences	Mean	SD	*P*-Value
Faculty	Yes	53.08	13.64	0.220
	No	55.90	12.58	
Residents	Yes	41.19	12.42	0.152
	No	44.32	13.01	
Students	Yes	49.33	12.06	0.017
	No	54.22	11.19	

**Significant p-value < 0.05*

Assessment of the impact of the university entrance year on total scores yielded no significant association with total scores (*p*-values of 0.080, 0.913 and 0.084 for faculty, residents and students, respectively).

Discussion

Nearly all medical schools around the world offer medical ethics courses for medical students, but it seems that these programs are not very efficient. The reason might be that the courses are too short or too brief (33). Hidden curriculum is considered as the not-so-obvious messages that are conveyed via behaviors seen in the learning environment mostly from physicians in higher educational ranks. This makes routine daily exposure to ethical attitudes and behaviors of other students, residents and faculty members an important route of education with a great impact on the ethical foundations of medical care in learners. The results of this study showed that students believe professional standards of behavior are not adequately respected in the clinical environment.

Professionalism is fundamental to shaping the behavior of those involved in medical practice, but the organization should also be sensitive to this concept (34). Professionalism has been regarded as an essential part of the medical profession since 1980 (26). In modern medicine, the way to establish and develop professionalism in medical students and clinical practitioners is especially important and should be clear (25), but as hidden curricula in medical schools, it should be monitored and evaluated (27,28).

Spiwak et al., evaluated the professional behavior of different training levels and reported that perception of adherence to professionalism principles varies according to the educational level and depends on the extent of contact with instructors and teachers (35). These findings were confirmed by the results of the present study. Perceptions of professional behavior were similar among students and faculty, but were significantly lower in the residents. An underlying cause might be the fact that members of a certain group usually consider themselves more positive because their identity in the society is recognized with their group; therefore, it is not irrational for them to report more positive features and behaviors in their own group. As can be seen in our study, students regarded themselves

more professional than the residents. It is interesting that another study has reported that both students and residents consider their own group more professional than the other group simultaneously (33). Al Gahtani et al., who used the same instrument as we did, found that students rated their peers' professional behavior higher than that of faculty and residents (36). The explanation may be that residents usually spend more time in the hospital than students and faculty members and are exposed to more workload and stress, and so their threshold for unprofessional behaviors lowers. However, in a study on residents' perceptions of their own professionalism, Gillespie et al., emphasized the influence of the learning environment on the development of professionalism in residents (37).

It should be noted that unprofessional acts outweigh more professional acts and play a greater role in the ethical perception of behaviors. Observing an unethical behavior can diminish the positive effect of other ethical behaviors on students' perception of an individual's professionalism (29).

The three lowest scored items were "complaining about professional obligations", "showing disrespect for patients, students, faculty, staff or other healthcare personnel" and "enjoying serving others". Therefore, we recommend modifications in the formal teaching of professionalism and behaviors of role models with focus on these items. It should be noted, however, that according to the findings of the present study, the changes must be directed at alteration of residents' attitudes and behaviors. As demonstrated by another study, the clinical environment should reward and reinforce professional acts and behaviors among health-care professionals (7).

Another finding of our study was that gender had a significant impact on students' perception of the professional climate. Female students rated faculty members' adherence to professional standards higher that male students did. The explanation for these findings should be investigated in further studies. In this regard, recommendations from the Ottawa 2010 Conference highlighted the importance of various issues such as culture, gender, hierarchy, background, generation, etc. in evaluation of professionalism (24). Hoonpongsimanont et al., argued that the influence of generations and their values should be considered in assessment of professionalism (38). However, in modern medical curricula professionalism is integrated in clinical practices (25). Also, in becoming a physician it is important to develop one's medical professional identity (27, 39). However, professionalism is a complex competency, so its assessment should be multidimensional (21).

The main limitation of our study was absence of perceptions and observations of other groups (residents and faculty) to be compared with students' views. Future studies can be more informative by including the views of these two groups. Our study was performed in only one university, so further studies in multiple universities can lead to more comprehensive results.

Conclusion

This study was evaluated the medical students' perception of professionalism climate in clinical settings of TUMS. According to these study students observed their peers and faculty more professional than residents. Meanwhile, most of the respondents argued that medical ethics courses and conferences did not have any impact on the professional behavior of medical students. Another major finding was that the improvement of residents' professional training is crucial as they have a major role in influencing and shaping students' professional behavior. Alongside with this is the huge impact of the professional climate of clinical practices on elevating the professional behavior of everyone engaged in healthcare. However, further multicenter studies are needed to evaluate the impact of the professionalism climate on the faculty, residents, and students.

Conflicts of Interests

There are no conflicts of interests.

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